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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,909	11/13/2001	Masao Segawa	216095US2S	6633

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

DANIELS, ANTHONY J

ART UNIT

PAPER NUMBER

2615

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,909

Applicant(s)

SEGAWA ET AL.

Examiner

Anthony J. Daniels

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figure 14 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1,2,4-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Takachi (US 20030137595).

As to claim 1, Takachi teaches an image pickup apparatus ([0002]) comprising: a first connector (Figure 2, engagement step portion "15") arranged on a wiring board (Figure 2, image sensing device accommodating package "3"; *{The package includes the wiring of the solid-state imaging device "4".}*); a second connector (Figure 2, engagement claws "16" and the optical holding members "8a" and "8b") including an optical lens (Figure 2, lenses "10" and "13") and being engageable with the first connector (Figure 2; [0029], Lines 1-5) and a photoelectric conversion module (Figure 2, solid-state image sensing device "4" and package "3") on which light is incident from the optical lens ([0022], Lines 1-6), said photoelectric conversion module being fixedly held when the photoelectric conversion model is clamped by the first and second connectors in a state where the first and second connectors are in engagement and coupled relatively to each other ([0036], Lines 1-10).

As to claim 2, Takachi teaches an image pickup apparatus according to claim 1, wherein said photoelectric conversion module comprises: a wiring board (Figure 2, package "3") including an opening (Figure 2, opening defined by the area between the right and left engagement step portions "15"); a photoelectric conversion element (Figure 2, solid-state image sensing device "4") provided for one major surface of the wiring board (Figure 2, the "well" of the package "3") and including a photoelectric conversion surface that opposes the opening (Figure 2, surface exposed to the lenses of the solid-state image sensing device "4"); and a transparent member (Figure 2, seal glass "5") provided for another major surface of the wiring

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board (Figure 2, area defined by the top of the right and left engagement step portions “15”) and covering both the opening and the photoelectric conversion surface (Figure 2).

As to claim 4, Takachi teaches an image pickup apparatus according to claim 1, wherein said second connector includes a lens barrel (Figure 2, lens barrel between the optical holding members “8a” and “8b”).

As to claim 5, Takachi teaches an image pickup apparatus according to claim 1, wherein said second connector includes a lens barrel (Figure 2, lens barrel between optical holding members “8a” and “8b”), and said lens barrel has at least one opening (Figure 2, aperture “14b”) which opposes the optical lens (Figure 2) and which is provided with a diaphragm (Figure 2, diaphragm “12”; [0029], Lines 1-10).

As to claim 6, Takachi teaches an image pickup apparatus according to claim 1, wherein said first connector includes a guide (Figure 2, spacer “19”; *{The spacer can be set on top of the engagement step portion “15”, thereby being included in the engagement step portion (first connector).}*), which guides the second connector to a predetermined position ([0037]).

As to claim 7, Takachi teaches an image pickup apparatus according to claim 1, wherein said first connector includes an elastic member (Figure 2, O-ring “18”) which urges the second connector toward the first connector when the first and second connectors are brought into engagement and coupled relatively to each other ([0035], Lines 12-17).

5. Claims 8,9 are rejected under 35 U.S.C. 102(e) as being anticipated by Takagi et al. (US 20020044215).

As to claim 8, Takagi et al. teaches a method for manufacturing an image pickup apparatus (Figures 7-10), comprising: an installation step of arranging a first connector (Figure 9A, Figure 9B, wires "4" of bare IC "6") and an electronic component (Figure 9A, Figure 9B, bare IC "6") on a wiring board (Figure 9A, Figure 9B, solid-state imaging device "3"; *{It is inherent that there be wiring in the solid-state imaging device.}*) and electrically connecting the first connector and the electronic component together (Figure 9B); and an assembly step of electrically connecting an electrode of the first connector (Figure 2, wires "4" are the first connectors) to a second connector (Figure 9B, electrode "19" and lens fixing member "12") of including an optical lens (Figure 9A, lens "13" of lens fixing member "12"), when the first connector and the second connector are brought into engagement (Figure 9B), said assembly step being executed by inserting a photoelectric conversion module (Figure 9B, solid-state imaging device "3"), including a photoelectric conversion element on which light from the optical lens of the second connector is incident (*This occurrence is inherent in the system of Takagi et al.*), between the first connector and the second connector (Figure 9B, solid-state imaging device is between the bare IC "6" (first connector) and the electrode "19" and lens fixing member "12" (second connector)).

As to claim 9, Tagaki et al. teaches a portable electric apparatus comprising the image pickup apparatus defined in claim 1 ([0001]).

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takachi et al. (see Patent Number above) in view of Tazunoki et al. (US # 5,191,224).

As to claim 3, Takachi teaches an image pickup apparatus according to claim 1, further comprising an electrode electrically connected to a terminal of the photoelectric conversion element (Figure 4, *{It is inherent that there exist an electrode at the terminal of the photoelectric conversion element to transfer charge to the signal process circuit section.}*), and located at a position where the first connector is in contact with the photoelectric conversion

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module (Figure 2), said electrode being electrically connected to the wiring board (Figure 2; *{It is inherent that the electrode be connected to the wiring board to transfer the charge.}*). The claim differs from Takachi in that it requires that the electrode be a spring electrode.

In the same field of endeavor, Tazunoki et al. teaches spring electrodes attached to a semiconductor substrate (Col. 8, Lines 21-33). In light of the teaching of Tazunoki et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to include spring electrodes as the electrodes of Takachi, because an artisan of ordinary skill in the art would recognize that this would allow for a more stable support of a semiconductor device (see Tazunoki et al., Col. 8, Lines 21-25) and provide a flexible electrode that is not easily broken.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Daniels whose telephone number is (571) 272-7362. The examiner can normally be reached on 8:00 A.M. - 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AD
6/3/2005



NGOC YEN VU
PRIMARY EXAMINER